REMARKS

The above amendment and remarks to follow are intended to be fully responsive to the issues presented in the Final Action mailed October 03, 2002.

The Examiner has requested translations of two prior art documents cited on the French Search Report disclosed to the examiner in the IDS filed along with this application. Accordingly, Applicant has attached hereto translations of DE 198 06 654 A1 and FR 2 621 867.

DE 198 06 654 (DE '654) discloses a heat pump system using, in the heating mode, the engine cooling loop as the heat source (heat exchanger 24 coolant/refrigerant) and a refrigerant/air heat exchanger (12) as a heat sink. In the cooling mode, heat exchanger 12 becomes an evaporator cooling the air which is blown in the vehicle cabin.

The drawback of the invention of DE '654 is the use of the same heat exchanger for cooling and heating, because in the cooling mode humidity coming from the air is condensed on the heat exchanger and, when switching from cooling mode to heating mode, this water evaporates rapidly causing a dangerous misting of the windshield. This phenomenon can be observed typically in transient climate conditions like spring-time (AC operation in daytime and heating operation at night).

FR 2 621 867 (FR '867) discloses, in Fig. 2, a heat pump system using in heating mode the engine cooling loop as a heat source (heat exchanger 56 coolant/refrigerant) and a refrigerant/air heat exchanger (58) as a heat sink. This heat exchanger is specified for the additional heating. In Fig. 3, FR '867 discloses a heat pump system using in heating mode the

engine cooling loop as heat source (heat exchanger 56 coolant/refrigerant) and a coolant/refrigerant heat exchanger (88) as a heat sink. Heat exchanger 88 is integrated in a specific cooling loop and supplies coolant/air heat exchanger 40 with a coolant at high temperature.

In the heating mode, the coolant loops 84, 86 run independently. This requires the installation of a four-way valve 90 and the installation of an additional coolant pump 92.

Applicant submits that these comments and the translations of DE '654 and FR 867 show that these references do not teach or render obvious the pending claims 1.

Claims 1 and 12 were rejected under 35 USC 112, second paragraph, for indefinite claim language. Applicant has amended claims 1 and 12 to address the deficiencies noted by the Examiner in the Official Action. Amended claims 1 and 12 are believed to recite the invention in compliance with 35 USC 112 and in accordance with the Examiner's comments. No new matter has been entered.

Claims 1, 2, and 10-14 were rejected under 35 U.S.C. 103(a) as being unpatentable over JA 10-76837 in view of Enomoto (USP 5,291,941). Claims 1, 2 and 10-14 were rejected under 35 U.S.C. 103(a) as being unpatentable over JA '837 in view of Enomoto '941 and Whalen (USP 3,910,345)/Momose (USP JP 59-241234). Claims 8 and 9 were rejected under 35 U.S.C. 103(a) as being unpatentable over JA '837 in view of Enomoto '941 and Echigoya (USP 5,971,290). These rejections are respectfully traversed in view of the above amendments and the following remarks.

Claim 1 recites the control means in the forms of valves that control the quantity of heat-

carrying fluid that passes through the evaporator and condenser. As described in the original application, valves (26, 27 & 30, 31) control the quantity of heat-carrying fluid which passes through the evaporator and through the condenser, whereby the valves 27 and 31 are open when the valves 26 and 30 are closed and vice versa. (see page 12, lines 30-32 of specification).

None of the prior art relied upon by the Examiner discloses the arrangement of amended claim 1. Indeed, the sketch included at page 5 of the Official Action provides evidence of the deficiencies of JA 10-76837 in view of Enomoto '941 because there is no motivation or teaching to combine these references in the manner sketched out by the examiner – absent the insight provided by applicant's disclosure. Even if the Examiner unsupported assumption that "to have added a refrigerant based cooler circuit ... to JA '837 to give the capability of cooling in the summer as well as heating in the winter would have been obvious ...", the specific design and valve placement specifically recited in the pending claims requires some type of motivation or suggestion. The Examiner's hindsight reconstruction of the claimed invention is not proper.

In Whalen '345, "the bypass valves 56, 58 are employed so that certain quantities of returning chilled water and hot water, which are at different temperatures than those produced in the chiller 10 and heater 12, may bypass the chiller and heater 12 ..." see col. 7, lines 5-10 of Whalen '345. Consequently, valves 56, 58 of Whalen '345 do not anticipate the structure/function of the valves recited in amended claim 1. The same argument is true for Momose '234.

The fact, that the drawbacks and deficiencies of JP '837 are described in the instant specification at page 2, line 24 through page 3, line 31, is quite telling. This portion of

applicant's specification states specific drawbacks and deficiencies, then describes how this invention solves these drawbacks and deficiencies. The Examiner has simply reconstructed the applicant's claimed invention based on the applicant's own teaching. This type of obviousness analysis/determination is not proper.

It is respectfully submitted that this application is in condition for allowance and notice to that effect is earnestly solicited. Should the Examiner believe additional discussion would advance the prosecution of the instant application, he is invited to contact the undersigned.

Respectfully submitted:
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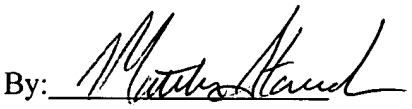
By: 
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APPENDIX OF AMENDMENTS

IN THE CLAIMS

Please amend claims 1 and 12 as follows.

1. A device for heating and/or air conditioning the passenger compartment of a motor vehicle, comprising an engine-cooling loop in which a heat-carrying fluid circulates for taking up heat from the engine and returning the heat to an air heater; a heat-pump loop in which a refrigerant fluid circulates, [this] said heat-pump loop containing a compressor, [an] a first evaporator constituting a cold source of the heat pump at which the refrigerant fluid takes up heat from the surroundings, and a first condenser constituting a hot source of the heat pump at which the refrigerant fluid gives up heat, the first condenser being integrated into the engine-cooling loop upstream of the air heater, the device further comprising an air-conditioning branch containing a second condenser and [an] a second evaporator, the air-conditioning branch having an upstream end connected to the heat-pump loop downstream of the compressor, and a downstream end connected to the heat-pump loop upstream of the compressor, and a switching device making it possible to make the refrigerant fluid circulate either in the air-conditioning [loop] branch, or in the heat-pump branch, is such a way as to form a heat-pump loop,

wherein the cooling loop includes control means including at least one valve to control the quantity of heat-carrying fluid which passes through the first evaporator and the first condenser.

12. A device for heating and/or air conditioning the passenger compartment of a motor vehicle, comprising an engine-cooling loop in which a heat-carrying fluid circulates for taking up heat from the engine and returning the heat to an air heater; a heat-pump loop in which a refrigerant fluid circulates, [this] said heat-pump loop containing a compressor, [an] a first evaporator constituting a cold source of the heat pump at which the refrigerant fluid takes up heat from the surroundings, and a first condenser constituting a hot source of the heat pump at which the refrigerant fluid gives up heat, the first condenser being integrated into the engine-cooling loop upstream of the air heater, the device further comprising an air-conditioning branch containing a second condenser and [an] a second evaporator, the air-conditioning branch having an upstream end connected to the heat-pump loop downstream of the compressor, and a downstream end connected to the heat-pump loop upstream of the compressor, and a switching device making it possible to make the refrigerant fluid circulate either in the air-conditioning [loop] branch, or in the heat-pump branch, is such a way as to form a heat-pump loop, and

further comprising a modular casing containing the first evaporator, control means of the first evaporator for controlling the quantity of heat-carrying fluid which passes through the first evaporator, an anti-return valve upstream of the evaporator, the first condenser, control means of the first condenser for controlling the quantity of heat-carrying fluid which passes through the first condenser, the switching device and a pressure-reduction means of the heat-pump loop for reducing the pressure of the refrigerant fluid between the first condenser and the first evaporator.